

ABSTRACT

A surge prevention valve may be used to prevent the formation of an initial surge of high pressure. The valve may be located, for example, between a high pressure gas cylinder and a medical pressure regulator. The valve is provided with first and second valves located within a housing and integrating a pressurization orifice. The initial opening of the valve in an axial direction enables gas to flow through the pressurization orifice at a first flow rate. The full opening of the valve in the axial direction enables the gas to flow through the second valve at a second flow rate, which is much higher than the first flow rate. The controlled pressurization of the gas through the orifice delays the time during which the gas reaches full recompression.